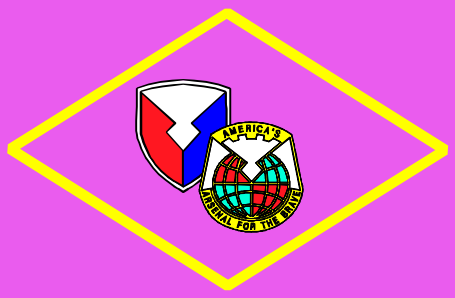
COOPERATIVE

RESEARCH AND DEVELOPMENT

AGREEMENTS



U.S. Army Materiel Command

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY MATERIEL COMMAND
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COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS (CRADAs)

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This pamphlet does not create any substantive or procedural right in third parties or impose any specific legal duty or obligation upon any government organization or employee.

WHAT IS A CRADA?

A cooperative research and development agreement (CRADA) is a legal agreement between a Federal laboratory and a non-Federal party to conduct specified research or development efforts that are consistent with the missions of the Federal laboratory. [15 U.S.C. § 3710a(d)(1)].

A CRADA is **not**:

(1) A GOVERNMENT PROCUREMENT CONTRACT!

Therefore, the laws and regulations that govern procurements (such as the Competition in Contracting Act and Federal Acquisition Regulation) are not applicable to CRADAs. Furthermore, CRADAs are not subject to bid protests or the Contract Disputes Act. [15 U.S.C. § 3710a (d)(1)].

Procurement contracts are used to acquire property or services for the direct benefit or use of the Government. [31 U.S.C. § 6303(1)]. In contrast, CRADAs are used to conduct research and development for the mutual benefit of the Federal laboratory and the non-Federal party or for the sole benefit of the non-Federal party consistent with the missions of the Federal laboratory (e.g., merely transferring technology developed in a Federal laboratory to a non-Federal party). [Army Regulation 70-57, para. 2-6].

(2) A COOPERATIVE AGREEMENT OR GRANT!

Cooperative agreements and grants are other types of assistance agreements. [15 U.S.C. § 3710a(d)(1); 31 U.S.C.§§ 6304, 6305]. Thus, Department of Defense (D0D) 3210.6-R, DoD Grant and Agreement Regulations, does not apply to CRADAs.

WHAT ARE CRADAS USED FOR?

GENERAL PURPOSE OF TECHNOLOGY TRANSFER

The Federal Technology Transfer Act of 1986 (Pub. L. 99-502) authorized Federal laboratories to enter into CRADAs. [15 U.S.C. § 3710a(a)(1)]. The primary purpose of the act is to encourage the transfer of commercially useful technologies from Federal laboratories to the private sector. Congress proclaimed that the purpose of Federally-funded research and development is to enhance the science and technology base needed for: (1) a strong national defense, (2) the health and well-being of U.S. citizens, and (3) a robust national economy. Federal laboratories are important partners with universities and industry in achieving these goals, and CRADAs are one mechanism for establishing this essential collaborative relationship.

Cooperative research and development efforts (such as CRADAs) have the greatest potential for long-term payoff of any technology transfer mechanism. The collaborative working relationship allows Federal scientists and engineers to better understand the technology needs of the commercial sector and facilitates a reverse flow of ideas into the Federal laboratory mission effort.

CRADAs may be used only to accomplish **research and development** (R&D) consistent with the missions of Federal laboratories. Furthermore, work performed under CRADAs by Federal laboratories must not unduly compete with services already available in the private sector.

"Commercial availability of DoD developed technologies can be expected to lower the costs of acquiring military equipment...and ensure that the civil sector receives the maximum possible benefit from the nation's national security investments."

SECRETARY OF DEFENSE

RESEARCH AND DEVELOPMENT

The term "research" includes basic research, applied research, and advanced research.

BASIC RESEARCH. Efforts directed toward increasing knowledge and understanding in science and engineering, rather than the practical application of that knowledge and understanding.

APPLIED RESEARCH. Efforts that attempt to determine and exploit the potential of scientific discoveries or improvements in technology such as new materials, devices, methods, and processes. Applied research normally follows basic research.

ADVANCED RESEARCH. Efforts that create new technology or demonstrate the viability of applying existing technology to new products and processes in a general way.

DEVELOPMENT. The systematic use of scientific and technical knowledge in the design, formulation, testing, or evaluation of potential new products, processes, or services to meet specific performance requirements or objectives.

SPIN-OFF AND SPIN-ON TECHNOLOGY

"Spin-off" is the transfer of technology from Federal laboratories to the private sector. "Spin-on" is the transfer of technology from the private sector to Federal laboratories.

There are two types of CRADAs: (1) those whose primary purpose is to transfer Federally developed technology or technological capability to the private sector ("spin-off"), and (2) those intended to mutually benefit both the Federal laboratory and the private sector by enhancing the technological knowledge of both ("spin-off" and "spin-on").

One example of "spin-off" technology transfer involved a thermal imaging sensor developed by an Army laboratory for battlefield use. Unlike similar conventional infrared devices, the Army sensor can be used at room temperature eliminating the need for a cooling system. The Army laboratory entered into a CRADA with a small business to explore the potential of using the technology for commercial use. As a result of the CRADA, the Army technology has been successfully adapted in commercial medical imaging instrumentation. The handheld commercial medical device provides clear images similar to MRI or CAT scans, but at a much lower cost.

The infrared technology developed by the Army laboratory is commonly referred to as **dual-use technology** because although it was developed for a military purpose, it has commercial application as well. The Army's Domestic Technology Transfer Program places great emphasis on transferring dual-use technology to the private sector.

An example of a "spin-off/spin-on" CRADA involved an Army medical laboratory and a biotechnology startup company. Research under the CRADA solved the mystery of how to produce a cholera vaccine without harmful side effects. The technology has been successful in human clinical trials. Obviously, this research is of vital importance to protecting the health of American soldiers deploying to third world countries and is of equal importance to the private sector, which is commercializing the vaccine.

IMPROPER USES

A CRADA may NOT be used when a Government procurement contract is the appropriate instrument for accomplishing the R&D effort. Furthermore, CRADAs should be avoided whenever a non-Federal party's participation might raise serious allegations from prospective bidders in future Government procurements. For example, it is impermissible to allow a non-Federal party to improperly influence the formulation of future Government procurement requirements or to improperly gain "inside" information about current or future procurements. In particular, Federal laboratories should avoid entering into CRADAs that might back the Army into future sole source procurements. Under some circumstances, the inclusion of an organizational conflict of interest clause in the CRADA would eliminate these concerns.

"Technology transfer is an important mission of every Army laboratory. It permits the public and private sectors to share the fruits of Federally-funded R&D and facilitates a flow of ideas into Army laboratories. CRADAs are important mechanisms for establishing this essential collaborative relationship."

ASSISTANT SECRETARY OF THE ARMY FOR RESEARCH, DEVELOPMENT AND ACQUISITION

WHO MAY PARTICIPATE IN CRADAS?

There must be at least two parties to a CRADA: (1) a Federal laboratory, and (2) a non-Federal entity. [15 U.S.C. § 3710a(d)(1)].

FEDERAL LABORATORIES

Federal laboratories include: (1) Army laboratories; (2) Army research, development and engineering centers (RDECs); (3) other Army R&D activities specifically designated by the Assistant Secretary of the Army for Research, Development and Acquisition; and (4) other Army activities whose substantial purpose is the performance of research, development, or engineering by Federal employees.

Commanders/directors of Army laboratories, RDECs, and Department of the Army (DA) specified R&D activities are authorized to enter into CRADAs. Major command (MACOM) commanders may enter into CRADAs on behalf of other Army R&D activities within their commands. [Army Regulation 70-57, paras. 1-8 & 1-9]. (See **APPENDIX II** for a list of Army officials who have been delegated authority to enter into CRADAs).

NON-FEDERAL PARTIES

Non-Federal parties that may participate in CRADAs include: (1) state and local governments; (2) industrial organizations (including corporations, partnerships, limited partnerships, and industrial development organizations); (3) public and private foundations; (4) nonprofit organizations (including universities); and (5) other persons. [15 U.S.C. § 3710a(a)(1)]. Non-Federal parties are often referred to as "collaborating parties."

Small business firms and consortia involving small businesses must be given special consideration as potential CRADA participants. Also, businesses located in the United States and businesses which agree to manufacture in the United States products embodying inventions made under a CRADA shall be given preference. [15 U.S.C. § 3710a (c)(4)].

In the case of industrial organizations or other persons subject to the control of a foreign government or company, Federal laboratories must take into consideration the extent to which the foreign government permits U.S. agencies, organizations, or other persons to enter into foreign cooperative research and development agreements and intellectual property licenses. [15 U.S.C. § 3710a (c)(4)(B)]. Furthermore, there are numerous regulations governing the release of military technical information to foreign governments and companies subject to the control or influence of foreign governments that must be consulted when foreign companies are prospective CRADA parties. Finally, consultation with the U.S. Trade Representative may be necessary when executing a CRADA with a foreign person or industrial organization.

OTHER PARTIES

Although at least one Federal laboratory and one non-Federal party are necessary for the formation of a CRADA, there may be additional parties as well. For example, a CRADA may include more than one Federal laboratory and/or more than one non-Federal party.

HOW DOES A FEDERAL LABORATORY FIND A COLLABORATING PARTY?

Every major Army laboratory has an Office of Research and Technology Applications (ORTA), whose primary responsibility is to identify, assess, and publicize the technological capabilities of the laboratory that have potential commercial applications. The ORTA serves as the laboratory's technology transfer liaison with the private sector.

There is no requirement that CRADAs be formed using competitive procedures as is required for Government procurement contracts. Nonetheless, the principles of basic fairness apply. Federal laboratories should consider all requests from non-Federal parties to participate in CRADAs. Notwithstanding, ORTAs should select those CRADAs that will most significantly impact the commercial sector, consistent with the missions of the Federal laboratories. Preference shall be given to small businesses and entities that will manufacture products in the United States that incorporate the CRADA technology.

ORTAs should publicize laboratory technology using such media as the Federal Register, the Internet, and industry trade publications. However, the main source for identifying potential collaborating parties will often be Federal laboratory employees, who are normally aware of those universities and private companies which are pursuing research of mutual interest. Finally, unsolicited proposals should be reviewed with the aim of identifying potential collaborating parties when the establishment of a CRADA would be appropriate.

NEGOTIATING THE TERMS OF A CRADA

Once a collaborating party is identified, the ORTA must assess the viability of negotiating a productive CRADA. Although CRADAs are not Government procurement contracts, CRADAs are legally binding agreements. Therefore, care must be exercised in their negotiation. A well-written CRADA will clearly define the obligations and rights of each party and avoid misunderstandings or disputes that may otherwise arise during the performance of the CRADA. **CRADAs must be reviewed for legal sufficiency.**

The following sections describe some of the more important issues that should be addressed in a CRADA. (See **Appendix III** for a sample CRADA).

STATEMENT OF WORK

The statement of work is the focal point of every CRADA. It defines the scope of the R&D tasks that each CRADA party will conduct. The statement of work must be specific enough that each party understands its R&D obligations, while at the same time recognizing the need for flexibility to adapt to the realities of R&D work. The statement of work should set forth the resources that each party intends to contribute to the R&D effort. (See **WHAT MAY EACH PARTY CONTRIBUTE TO A CRADA?**).

CONDUCT OF THE R&D EFFORT

The overall organizational and procedural framework for managing the CRADA effort must be defined. The CRADA must identify the principal investigators of each team and how joint teams will be controlled. Reports that each party will prepare describing the technical progress and results achieved should also be prescribed.

INTELLECTUAL PROPERTY

The CRADA must address how intellectual property created or obtained in furtherance of the CRADA will be treated. It must determine the rights of ownership to the various types of intellectual property, establish procedures for securing statutory protection of intellectual property, and set forth each party's right to use the intellectual property. Furthermore, the right to use, disclose, and protect proprietary data exchanged by the CRADA parties or created jointly during the CRADA must be determined. (See **HOW IS INTELLECTUAL PROPERTY HANDLED UNDER A CRADA?**).

DISPUTES AND TERMINATION

There must be an established mechanism for resolving disputes between the parties that arise during the performance of the CRADA. Alternate disputes resolution (ADR) procedures are preferred. The agreement must also set forth the parties' rights to terminate the CRADA and the rights and obligations of each party in the event the CRADA is terminated.

"Army technology can make a real difference to American economic security in the face of unprecedented, rising world-wide competition. Through technology transfer, America's taxpayers gain a stronger defense and a stronger economy."

DEPUTY ASSISTANT SECRETARY
FOR RESEARCH AND TECHNOLOGY
DEPARTMENT OF THE ARMY

WHAT MAY EACH PARTY CONTRIBUTE TO A CRADA?

FEDERAL LABORATORIES

Federal laboratories may provide the following when performing research and development under CRADAs:

(1) personnel,

(2) services,

(3) equipment,

(4) facilities,

(5) intellectual property (see **HOW IS INTELLECTUAL PROPERTY HANDLED UNDER A CRADA?**), and

(6) other resources.

[15 U.S.C. § 3710a(d)(1)]. However, Federal laboratories may NOT directly provide Federal funds to non-Federal CRADA parties. [15 U.S.C. § 3710a(d)(1)]. Furthermore, although Federal laboratories may permit the use of their equipment and facilities by non-Federal parties in furtherance of CRADAs, title to the property remains with the Government. Nonetheless, there is separate statutory authority for Federal laboratories under some circumstances to donate excess research equipment to educational institutions and nonprofit organizations for technical and scientific education and research activities. [15 U.S.C. § 3710(i)].

The resources provided by Federal laboratories may be on a reimbursable or nonreimbursable basis. If reimbursement is provided, the funds may be credited to the fund account initially charged for the respective expenditure or the Federal laboratory may use the funds in furtherance of the CRADA.

NON-FEDERAL PARTIES

Non-Federal parties may provide (and Federal laboratories may accept, retain, and use in furtherance of research and development under CRADAs):

(1) funds,

(2) personnel,

(3) services,

(4) equipment,

(5) facilities,

(6) intellectual property (see **HOW IS INTELLECTUAL PROPERTY HANDLED UNDER A CRADA?**), and

(7) other resources.

[15 U.S.C. § 3710a(d)(1)]. Costs incurred by non-Federal parties are allowable as independent research and development (IR&D) costs if the work performed would otherwise have been allowed as IR&D costs if there had not been a cooperative arrangement. [FAR 31.205.18(e)].

"Cooperative research and development agreements are mutually beneficial to the Army and the private sector...allowing each to leverage its R&D resources."

PRINCIPAL DEPUTY FOR TECHNOLOGY
U.S. ARMY MATERIEL COMMAND

HOW IS INTELLECTUAL PROPERTY HANDLED UNDER A CRADA?

One of the most important issues that every CRADA must address is the treatment of intellectual property. There are several types of intellectual property that may be encountered during the performance of a CRADA: (1) patents, (2) copyrights, (3) trade secrets, and (4) trademarks. The following is a brief discussion of intellectual property issues that must be considered when negotiating a CRADA. **All CRADAs must be coordinated with the Federal laboratory's intellectual property attorney.** [Army Regulation 70-57, para. 3-27a].

PATENTS

A patent is a grant from the U.S. Government which allows an inventor to exclude others from making, using, selling, offering to sell, and importing the invention for a specific period of time, normally 20 years. [35 U.S.C. § 271]. There are two classes of patentable inventions that must be covered in a CRADA.

1. Background (or non-subject) Inventions.

Background inventions are inventions which were not made in the furtherance of the research and development effort performed under the CRADA, but were made prior to the CRADA or independent of the CRADA. Normally, the parties will retain their own rights to their respective background inventions, but can agree otherwise. Frequently, the parties will grant each other the right to practice relevant background inventions during the research and development effort performed pursuant to the CRADA.

2. Subject Inventions.

The second class of inventions are known as subject inventions. Subject inventions are inventions made (i.e., conceived or first reduced to practice) in furtherance of the research and development effort performed under a CRADA. Subject inventions can be made by the employees of

one party or jointly by the employees of more than one party.

a. **Made by Federal employees**.

Rights to inventions made solely by Federal laboratory employees usually belong to the Government, although the Government will normally grant the non-Federal party a royalty-free, nonexclusive license to practice (i.e., make, use, sell, offer to sell, or import) these inventions. The Federal laboratory must ensure that the non-Federal party has the option to choose an exclusive license for a pre-negotiated field of use. If the Federal laboratory grants an exclusive license, the Government must retain at least a nonexclusive, royalty-free license to practice the invention world-wide by or on behalf of the Government for Government purposes.

A *license* is permission from the owner of a patent to another person (*licensee*) allowing the licensee to practice the patented invention. A *royalty-free* license allows the licensee to practice the invention without paying any money. Licenses can be exclusive or nonexclusive. A *nonexclusive license* allows the licensee to practice the invention, but also permits the patent owner to license other persons to practice the invention. An *exclusive license* grants the licensee the exclusive right to practice the invention in a particular geographic area or field of use, or for a specified period of time. Under such circumstances, the patent owner may not grant competing licenses to other persons.

b. **Made jointly by Federal laboratory and non-Federal party employees.**

Title to inventions made jointly by Federal laboratory employees and employees of non-Federal parties may be retained jointly by the parties or assigned to one of the parties. However, the Federal laboratory must ensure that the non-Federal party has the option to choose an exclusive license for a pre-negotiated field of use. If an exlusive license is granted or the title is assigned to the non-Federal party, the Government must retain at least a nonexclusive, royalty-free license to practice the invention world-wide by or on behalf of the Government for Government purposes.

c. **Made by non-Federal party employees.**

Title to inventions made solely by employees of a non-Federal party belongs to that party unless the parties agree otherwise in the CRADA. Army laboratories must negotiate a royalty-free, nonexclusive license to practice these inventions world-wide by or on behalf of the Government for Government purposes.

COPYRIGHTS

Authors may seek copyright protection for works they create. Copyright owners possess the exclusive right to reproduce, distribute, display, perform, and prepare derivative works of their original creations. Copyrightable works include: (1) books, (2) computer software, (3) sound recordings, (4) pictures, graphics, and sculptures, (5) audiovisual works, and (6) musical and dramatic works. [17 U.S.C. §§ 101 *et. al.*]

Computer software, technical reports, and graphic designs are common forms of copyrightable material created during the performance of CRADAs. CRADAs must define the rights of the parties to these copyrightable works.

1. **Works created by Federal employees.**

Works created solely by Government employees as part of their official duties cannot be copyrighted. [17 U.S.C. § 105]. Thus, no one can claim copyright ownership to those works.

2. **Works created jointly by Federal and non-Federal employees.**

Works prepared jointly by Federal laboratory employees and non-Federal CRADA party employees may be copyrighted. [17 U.S.C. § 201(a)]. Under these circumstances, the parties may agree in advance who will have ownership of the works. The CRADA might state that

ownership of the copyrights will be assigned to the Government or that the non-Federal party will retain ownership. In the later event, the Government should receive royalty-free licenses to use, copy, and distribute the copyrighted works for Government purposes.

3. **Works created by non-Federal employees.**

Title to works created solely by non-Federal CRADA party employees belongs to the non-Federal party. However, the parties may agree that ownership will be assigned to the Government. If title is retained by the non-Federal party, the Government should seek a royalty-free license to use, copy, and distribute the copyrighted works for Government purposes.

TRADE SECRETS

Confidential information (i.e., technical or financial data) that is economically valuable to its possessor is called a trade secret. Trade secret law protects against the unauthorized use or disclosure of such information by someone who obtained it through a confidential relationship. CRADA parties often exchange technical data which is proprietary in nature and qualifies as a trade secret.

1. **Received by Federal laboratories.**

Trade secret information which is obtained by Federal laboratories from non-Federal CRADA parties shall NOT be disclosed by the Government as long as the information retains its status as a trade secret. [15 U.S.C. § 3710a(c)(7)(A)].

2. **Developed by Federal laboratory employees or jointly with non-Federal party employees.**

Trade secret type information developed by Federal laboratory employees or jointly with non-Federal CRADA party employees as a

result of the R&D activities performed under a CRADA may be withheld from the public for a period of up to 5 years. [15 U.S.C. § 3710a(c)(7)(B)]. This protection may be significant to the non-Federal CRADA party who will have the benefit of valuable technical information developed under a CRADA which may not be available to its competitors for up to 5 years.

TRADEMARKS

A trademark is any word, name, symbol, or other device used to distinguish a product and identify its source. Familiar trademarks include: Coca-Cola®, McDonald's, and Microsoft® Windows™.

The use of trademarks may arise under a CRADA in several ways. One common circumstance involves computer software developed under a CRADA. The non-Federal party may subsequently commercially market the software under a trademark. The Government may also desire to use that trademark when identifying the software which the Government is using under the terms of a royalty-free license granted under the CRADA or that it jointly developed under the CRADA. Unless authorization to use the trademark is set forth in the CRADA, the Government may be precluded from using the trademark.

HOW MAY FEDERAL LABORATORIES USE ROYALTIES FROM LICENSED INTELLECTUAL PROPERTY?

The Technology Transfer Act of 1986, besides permitting Federal laboratories to enter into CRADAs, allows Federal laboratories to negotiate licenses and assignments of intellectual property made or developed at Federal laboratories or that have been voluntarily assigned to the Government. [15 U.S.C. § 3710a (a)(2)]. An *assignment* is a legal instrument that transfers title to intellectual property. Licenses and assignments may be included within CRADAs or they may be separate documents irrespective of CRADAs. The Government may collect royalties (e.g., money) from licensees.

Federal laboratories may use and retain royalty income pursuant to the following rules:

(1) If the income is less than $1,000 times the number of Army inventors, the entire income will be distributed equally to the Army inventors.

(2) If the income is greater than $1,000 times the number of Army inventors, twenty percent (20%) of the income will be distributed equally to the Army inventors or $1,000 to each inventor, whichever is greater. However, an Army inventor may not receive more than $150,000 per year.

(3) A majority of the residual income will be transferred to the Federal laboratory where the invention was made, which may use the money for the following purposes during the fiscal year in which the income is received or during the succeeding fiscal year:

(a) for payment of expenses incidental to the administration and licensing of inventions by the laboratory;

(b) to reward scientific, engineering, and technical employees of the laboratory, including payments to inventors of sensitive or classified technology regardless of whether the technology has commercial

application;

(c) to further scientific exchange among Army laboratories; and

(d) for education and training of employees consistent with the R&D mission of the laboratory; and

(e) for other activities that increase the licensing potential for the transfer of technology from the laboratory.

Any funds not so used or obligated by the end of the fiscal year succeeding the fiscal year in which they were received shall be paid by the Federal laboratory into the Treasury of the United States and are no longer available for use or obligation by the Federal laboratory.

(4) The remaining income will be distributed by the Army Domestic Technology Transfer Program manager for authorized purposes in support of the Army's technology transfer program.

[15 U.S.C. § 3710c; Army Regulation 70-57, para. 2-9].

STANDARDS OF CONDUCT CONSIDERATIONS

Participation by Federal employees in the negotiation and performance of CRADAs can raise ethical issues. The following are some of the more common ethical considerations. The laboratory Ethics Counselor should be consulted regarding any potential ethical problems or questions.

FINANCIAL INTERESTS

Federal law prohibits a Federal employee from participating *personally and substantially* in an official capacity in a matter in which the employee or the employee's family has a *financial interest*, unless the employee is granted a waiver. [18 U.S.C. § 208]. Some prohibited activities that must be avoided include:

(1) Participating in a CRADA involving a company in which the Federal employee (or an immediate family member) owns stock.

(2) Participating in a CRADA involving a company for which the Federal employee (or an immediate family member) is employed or consulting (even if only part-time).

(3) Participating in a CRADA involving a company that the Federal employee (or an immediate family member) is negotiating with for future employment opportunities.

(4) Participating in a CRADA involving a patented invention that an Federal employee (or an immediate family) owns and has licensed to a company participating in the CRADA. However, if the Government owns the invention and the employee is merely entitled to receive royalties for the invention from the Government, then the right to the royalty payments is not a prohibited financial interest, but is merely considered additional compensation for Federal service. [Assistant Attorney General Opinion to the Office of Government Ethics (Sept. 13, 1993), Ethics Issues Related to the Federal Technology Transfer Act of 1986].

MISUSE OF OFFICIAL POSITION

A Federal employee participating in a CRADA may not disclose or use information obtained during the performance of a CRADA for unofficial purposes without prior approval, unless that information is releasable to the general public. To do otherwise would constitutes misuse of the employee's official position as a Government employee. This is not only an ethical violation, but under some circumstances would be a criminal violation of the Trade Secrets Act. [18 U.S.C. § 1905].

POST-EMPLOYMENT RESTRICTIONS

Federal employees participating in CRADAs who are contemplating retirement or separation from Federal service should consult their Ethics Counselor regarding post-employment restrictions that might apply.

DA REVIEW OF CRADAS

The Assistant Secretary of the Army for Research, Development and Acquisition (ASA(RDA)) has reserved the right to disapprove or require modifications to CRADAs entered into by Army laboratories within 30 days after the executed CRADA is presented to the ASA(RDA). Immediately after an Army laboratory director and the collaborating parties sign a CRADA, the CRADA must be forwarded to the ASA(RDA) in accordance with Army Regulation 70-57.

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APPENDIX I

REFERENCES

10 U.S.C. § 2194, Education Partnerships
10 U.S.C. § 2358, Research Projects
10 U.S.C. § 2369, Product Evaluation Activity
10 U.S.C. § 2371, Advanced Research Projects: Cooperative Agreements and Other Transactions
10 U.S.C. § 2511, Defense Dual-Use Technology Partnerships
10 U.S.C. § 2512, Commercial-Military Integration Partnerships
10 U.S.C. § 2514, Encouragement of Technology Transfer
10 U.S.C. § 2519, Federal Defense Laboratory Diversification Program
15 U.S.C. § 3710, Utilization of Federal Technology
15 U.S.C. § 3710a, Cooperative Research and Development Agreements
15 U.S.C. § 3710c, Distribution of Royalties Received by Federal Agencies
15 U.S.C. §§ 4301– 4606, Cooperative Research [Antitrust]
31 U.S.C. §§ 6301– 6308, Using Procurement Contracts and Grant and Cooperative Agreements
33 U.S.C. § 2313, Collaborative Research and Development
35 U.S.C. § 202, Disposition of [Patent] Rights
35 U.S.C. § 207, Domestic and Foreign Protection of Federally Owned Inventions
35 U.S.C. § 208, Regulations Governing Federal Licensing
35 U.S.C. § 209, Restriction on Licensing of Federally Owned Inventions
40 U.S.C. § 483(d), Acquisition of Excess Personal Property by Federal Agencies for Grantees Prohibited; Exceptions
Executive Order No. 12591, Facilitating Access to Science and Technology
37 C.F.R. Part 404, Licensing of Government Owned Inventions
DoD 3200.12-R-4, Domestic Technology Transfer Program Regulation
AR 70-57, Military-Civilian Technology Transfer

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APPENDIX II

DELEGATION OF AUTHORITY TO ENTER INTO CRADAs

The following officials within the Department of the Army have been delegated authority to enter into CRADAs by the Assistant Secretary of the Army (Research, Development and Acquisition):

Commander, Army Materiel Command
Commander, Training and Doctrine Command
Commander, Information Systems Command
Commander, Space and Strategic Defense Command
The Surgeon General
Chief of Engineers
Deputy Chief of Staff for Personnel
Commander, Army Research Institute for Behavioral & Social Sciences
Director, Cold Regions Research & Engineering Laboratory
Director, Construction Engineering Research Laboratories
Director, Topographic Engineering Center
Director, Engineer Waterways Experiment Station
Director, Hydrologic Engineering Center
Director, Institute for Water Resources
Commander, Aeromedical Research Laboratory
Director, Clinical Investigations Regulatory Office
Director, Center for Healthcare Education & Studies
Commander, Institute of Surgical Research
Commander, Medical Research Institute of Chemical Defense
Commander, Medical Research Institute of Infectious Diseases
Commander, Research Institute of Environmental Medicine
Director, Walter Reed Army Institute of Research
Commander, Armament Research, Development & Engineering Center
Director, Benet Laboratories
Director, Army Research Laboratory

Director, Army Research Office
Director, Aviation Research, Development & Engineering Center
Director, Aeroflightdynamics Directorate
Director, Aviation Applied Technology Directorate
Director, Edgewood Research, Development & Engineering Center
Director, Communications-Electronics Command Research, Development & Engineering Center
Director, Missile Command Research, Development & Engineering Center
Commander, Natick Research, Development & Engineering Center
Director, Tank Automotive-armaments Command Research, Development & Engineering Center
Commander, Combat Systems Test Activity
Commander, Dugway Proving Ground
Commander, Electronic Proving Ground
Director, Redstone Technical Test Center
Commander, White Sands Missile Range
Commander, Yuma Proving Ground
Commander, Defense Language Institute Foreign Language Center
Director, Training and Doctrine Command Analysis Center

APPENDIX III

SAMPLE CRADA

The _____ (hereafter "Federal Laboratory") and the _____ (hereafter "Collaborating Party") enter into this Cooperative Research and Development Agreement (hereafter "Agreement") and agree as follows:

Article 1
General

1.1 Authority. This Agreement is entered into pursuant to the Federal Technology Transfer Act of 1986 (Public Law No. 99-502), which permits directors of Federal laboratories to enter into cooperative research and development agreements and intellectual property licenses for intellectual property owned by or assigned to the United States Government. This is not a procurement contract or cooperative agreement as those terms are used in 31 United States Code (U.S.C.) §§ 6303, 6304, and 6305.

1.2 Federal Laboratory representative. The person signing this Agreement on behalf of the Federal Laboratory represents that he/she has authority to enter into this Agreement. Notwithstanding this authority, the Secretary of the Army has reserved to the Assistant Secretary of the Army (Research, Development and Acquisition) the authority provided by 15 U.S.C. § 3710a(c)(5)(A) to disapprove or require modification of this Agreement within thirty (30) days of the date it is presented to the Assistant Secretary. If the Assistant Secretary disapproves this Agreement, the Agreement is null. If the Assistant Secretary requires modification of this Agreement, the Collaborating Party shall have thirty (30) days from notification of such action to ratify the modifications or terminate this Agreement.

1.3 Collaborating Party representative. The person signing this Agreement on behalf of the Collaborating Party represents that he/she has the authority to bind the Collaborating Party to the terms of this Agreement.

Article 2
Definitions

2.1 "Background inventions" mean inventions other than subject inventions.

2.2 "Computer software" or "software" means computer programs, source code, source code listings, object code listings, designs, details, algorithms, processes, flow charts, formulae and related material that would enable the software to be reproduced, recreated, or recompiled. Computer software does not include computer databases or computer software documentation.

2.3 "Government" means the United States of America and the agencies thereof.

2.4 "Government purpose" means any activity in which the Government is a party, including cooperative agreements with international or multinational defense organizations or sales or transfers by the Government to foreign governments or international organizations, and competitive procurements. Government purpose does not include for commercial purposes.

2.5 "Inventions" means any invention or discovery which is or may be patentable or otherwise protected under Title 35 of the United States Code or any novel variety of plant which is or may be protectable under the Plant Variety Protection Act (7 U.S.C. § 2321, *et seq.*).

2.6 "Made" when used in conjunction with any invention means the conception or first reduction to practice of such invention.

2.7 "Party" or "parties" refers to the Federal Laboratory and the Collaborating Party (in singular or plural usage as indicated by the context).

2.8 "Proprietary information" means information that embodies (1) trade secrets or (2) privileged or confidential commercial or financial information. The term does not include information that is otherwise available without restriction to the Government or the public.

2.9 "Subject data" means any data first produced in the performance of work under this Agreement.

2.10 "Subject invention" means any invention conceived or first reduced to practice in the performance of work under this Agreement.

2.11 "Technical data" means recorded information, regardless of the form or method of the recording, of a scientific or technical nature (including computer software documentation and databases). The term does not include computer software or data incidental to the administration of this Agreement, such as financial or management information.

Article 3
Cooperative Research

3.1 Statement of Work. Cooperative research and development effort performed under this Agreement shall be performed in accordance with the Statement of Work (SOW) attached hereto. Each party agrees to participate in the cooperative effort and to utilize such personnel resources, facilities, equipment, skills know-how, and information consistent with the SOW and each party's respective policies, missions, and requirements.

3.2 Review of work. Periodic conferences shall be held between the parties for the purpose of reviewing the progress of the cooperative effort. It is understood that the nature of this cooperative effort is such that completion within the period of performance specified

or within the resources allotted cannot be guaranteed. Accordingly, it is agreed that all cooperative research and development is to be performed on a best efforts basis.

3.3 Changes. If at any time either party's Principal Investigator determines that the research data dictate a substantial change in the direction of the work, the determining party shall promptly notify the other party, and the parties shall make a good faith effort to agree to any necessary changes to the SOW consistent with the basic scope of research set forth in the SOW.

3.4 Assignment of personnel. If the SOW contemplates the assignment of one party's personnel to the other party's facilities, then the employees shall remain employees of the assigning party and will not be considered as employees of the other party for any purposes, including but not limited to any requirements to provide workers' compensation, payment of salary or other benefits, or withholding of taxes. Assigned personnel will observe the other party's security, safety, health, and environmental facility regulations. Assigned personnel can be denied access or removed by the other party from its facilities at its discretion.

Article 4
Reports

4.1 Progress reports. As provided in the SOW, the parties will prepare and exchange written reports on the progress of their work, results obtained, problems encountered, and recommendations for further research and development. To the extent reasonable, further detail concerning the contents of the reports shall be provided upon request if necessary for the other party to fully understand the results achieved.

4.2 Final report. As provided in the SOW, the parties will prepare and exchange final reports, at the completion of the cooperative effort performed under this Agreement, on the progress of their work, results obtained, problems encountered, and recommendations for further research and development. To the extent reasonable, further detail concerning the contents of the reports shall be provided upon request if necessary for the other party to fully understand the results achieved.

Article 5
Transfer of Funds

5.1 Federal Laboratory. The Federal Laboratory shall not provide any Federal funds directly to the Collaborating Party.

5.2 Collaborating Party. The Collaborating Party shall transfer $ _____ to the Federal Laboratory for the performance of research and development as set forth in the SOW.

5.3 Salaries and travel. Unless otherwise provided in the SOW, each party shall provide financial support to its respective personnel in the performance of this Agreement, including salary, reimbursement for travel, and other expenses as appropriate.

Article 6
Title to Personal and Real Property

6.1 Personal property. Any tangible personal property provided or developed by a party during the performance of this Agreement shall remain the personal property of the party providing or developing it, unless otherwise agreed in the SOW. Any tangible personal property developed jointly by the parties during the performance of this Agreement shall become the property of the Federal Laboratory, unless other agreed in the SOW. Property provided by a party to another party may only be used for the performance of the cooperative effort under this Agreement, unless otherwise agreed in the SOW. Upon completion of the cooperative effort performed under this Agreement, each party shall immediately take possession of their respective property and bear the costs of the removal and transportation to their own facility. Any disposal of property shall be in accordance with applicable Federal, State, and local requirements.

6.2 Real property. Any real property made available for use by a party to another party for the performance of this Agreement shall remain the property of the party providing it. Any use of such property shall be in accordance with all applicable Federal, State, and local requirements.

Article 7
Patents

7.1 Reporting. Each party shall promptly report in writing to the other party subject inventions made by their respective employees or subcontractors.

7.2 Federal Laboratory inventions. The Federal Laboratory, on behalf of the Government, shall retain title to each subject invention made by its employees. The Federal Laboratory may file patent applications on these subject inventions at its own expense. The Federal Laboratory agrees to grant to the Collaborating Party a royalty-free, nonexclusive, irrevocable license to practice or have practiced world-wide by or on behalf of the Collaborating Party subject inventions covered by any resultant patents . Such nonexclusive license shall be evidenced by a confirmatory document prepared by the Federal Laboratory in a form satisfactory to the Collaborating Party.

7.3 Collaborating Party inventions. The Collaborating Party shall retain title to each subject invention made by its employees. The Collaborating Party may file patent applications on these subject inventions at its own expense. The Collaborating Party agrees to grant to the Government a royalty-free, nonexclusive, irrevocable license to practice or have practiced world-wide by or on behalf of the Government for Government purposes subject inventions covered by any resultant patents. Such nonexclusive license shall be evidenced by a confirmatory license agreement prepared by the Collaborating Party in a form satisfactory to the Federal Laboratory. The Collaborating Party may release the rights provided for by this paragraph to employee inventions subject to the Government purpose license granted to the Government.

7.4 Joint inventions. Title to subject inventions made jointly by employees of the Federal Laboratory and the Collaborating Party shall be held jointly by the Government and the Collaborating Party. The Collaborating Party shall have the initial option to file patent applications on joint subject inventions at its own expense.

7.5 Filing of patent applications. The party having the right to retain title and/or file patent applications on a specific subject invention may elect to file patent applications thereon provided it so advises the other party within 120 days from the date it reports the subject invention to the other party. In the event that the party having the right to file patent applications fails to advise the other party within 120 days from the date it reports the subject invention of its intent to file patent applications (and in which countries it intends to file), then the other party may elect (but is not required) to file patent applications on such subject invention in those countries instead. If the other party elects to file patent applications, the party initially having the right to file patent applications on the subject invention agrees to assign to the other party its rights, title, and interest in such subject invention in those countries in which the other party elects to file, subject to the retention by the assigning party of a royalty-free, nonexclusive, irrevocable license to practice or have practiced world-wide by or on behalf of the that party the subject invention covered by any resultant patents.

7.6 Patent expenses and cooperation. The expenses attendant to the filing of patent applications as specified above shall be borne by the party filing the patent application. Each party shall provide the other party with copies of patent applications it files in the U.S. Patent and Trademark Office or any foreign patent offices, along with the power to inspect and make copies of all documents retained in the official patent application file by the applicable patent office. The party filing the patent application shall have the right to control the prosecution of the application. The parties agree to cooperate with each other in the preparing and prosecution of patent applications.

7.7 Maintenance fees. The fees payable to a patent office in order to maintain the patent's enforcement will be paid by the party owning the patent, at its option. If that party decides not to pay the maintenance fees, it shall notify the other party, who may pay the maintenance fees if it desires to maintain the enforcement of the patent.

7.8 Licensing of inventions. The Government agrees to enter into negotiations in good faith with the Collaborating Party for the exclusive licensing at a reasonable royalty rate of Federal Laboratory-made and jointly-made subject inventions to the Collaborating Party in accordance with applicable laws and regulations. Any such resultant exclusive licensee is subject to a royalty-free, nonexclusive, irrevocable license to practice or have practiced world-wide by or on behalf of the Government for Government purposes.

7.9 Assignment and transfer. The Collaborating Party agrees that any non-exclusive license granted to the Collaborating Party by the Government pursuant to this Article may not be assigned, sublicensed, or otherwise disposed of except to a corporate affiliate of the Collaborating Party or to the successor of the Collaborating Party or its corporate affiliate. Exclusive licenses granted to the Collaborating Party pursuant to paragraph 7.8 may be sublicensed by the Collaborating Party.

7.10 Background inventions. The parties may grant each other expressed or implied royalty-free, nonexclusive licenses to practice or have practiced on their behalf background inventions for the performance of work under this Agreement. However, this Agreement does not grant any implied licenses for practicing background inventions in the performance of work not being conducted under this Agreement. Nonetheless, each party agrees to grant nonexclusive licenses at fair and reasonable terms to each other for background inventions that are necessary to practice subject inventions outside the performance of work under this Agreement, but only to the extent that the Federal Laboratory or the Collaborating Party has the authority to do so.

Article 8
Copyrights

8.1 Works created by Collaborating Party. Ownership to copyrights for original works of authorship created by employees of the Collaborating Party or for hire by the Collaborating Party in the course of performance of work under this Agreement are retained by the Collaborating Party. The Collaborating Party grants to the Government a royalty-free, nonexclusive, irrevocable license to use, modify, prepare derivative works, reproduce, distribute, perform, and display world-wide such copyrighted works by or on behalf of the Government for Government purposes.

8.2 Joint works. Ownership of copyrights for joint works prepared by employees of (or for hire by) the Federal Laboratory and the Collaborating Party in the course of performance of work under this Agreement are retained solely by the Collaborating Party. The Collaborating Party, however, grants to the Government a royalty-free, nonexclusive, irrevocable license to use, modify, prepare derivative works, reproduce, distribute, perform, and display world-wide such copyrighted works by or on behalf of the Government for Government purposes.

8.3 Software. The party creating software in the course of the performance of work under this Agreement will provide the other party with the source code, object code, and minimum support documentation needed by a competent user to use the software.

Article 9
Trademarks

9.1 Trademark use. The parties recognize that the Collaborating Party may seek to obtain trademark protection for goods developed under this Agreement which it subsequently commercially markets. The parties agree that the Government may indicate on any similar goods produced by or for the Government that the goods are a Government version of the goods protected by the trademark. The Government shall also have the right to use the trademark in print or communications media.

9.2 Qualifying notice. Prior to the use of the trademark by the Government, the parties will negotiate any reasonable qualifying language that must accompany the trademark.

Article 10
Proprietary and Protected Information

10.1 Exchange of data. The parties agree to exchange all subject data produced in the course of the performance of this Agreement. All information or data exchanged between the parties in the course of, or in contemplation of, this Agreement may be used and disseminated without restriction by the parties for any purpose unless the data or information is proprietary or otherwise protected as provided in paragraph 10.2 or Article 8.

10.2 Proprietary and protected information.

10.2.1 Form. Proprietary or protected information may be disclosed to another party orally, electronically, visually, in writing, or in any other tangible or intangible form. If it is initially disclosed in a nonfixed media, then the party disclosing the data must furnish the other party with the information in a fixed media with appropriate marking within 10 days of its initial disclosure. Failure to furnish the fixed media within 10 days or to prominently mark the information as proprietary or otherwise protected will not automatically result in the loss of the information's protected status, but will excuse any party's unauthorized disclosure or use of the information caused by the failure to meet the 10-day suspense to properly mark the information.

10.2.2 Collaborating Party background information. The Collaborating Party shall place a proprietary legend on all proprietary information that it furnishes to the Federal Laboratory under this Agreement which was produced or obtained prior to this Agreement or during the term of this Agreement, but not in the course of the performance of this Agreement. The legend shall prominently and explicitly identify which material is proprietary and which material is not proprietary. Any such marked proprietary information furnished by the Collaborating Party to the Federal Laboratory under this Agreement, or in contemplation of this Agreement, shall be used by the Federal Laboratory only for the purpose of carrying out this Agreement and for Government administrative and oversight purposes. Such marked proprietary information, as long as it maintains its proprietary status, shall not be disclosed or otherwise made available outside the Government without the consent of the Collaborating Party.

10.2.3 Federal Laboratory background information. The Federal Laboratory shall place a nondisclosure legend on all protected information it produced or obtained prior to this Agreement or during the term of this Agreement but not in the course of the performance of this Agreement that it furnishes to the Collaborating Party under this Agreement and that it asserts is protected. The legend shall prominently and explicitly identify which material is protected and which material is not protected. Any such marked protected information furnished by the Federal Laboratory to the Collaborating Party under this Agreement, or in contemplation of this Agreement, shall be used by the Collaborating Party only for the purpose of carrying out this Agreement. Such marked protected information, as long as it maintains its protected status, shall not be disclosed or otherwise made available to anyone other than the Collaborating Party without the consent of the Federal Laboratory.

10.2.4 Subject data. Subject data produced by employees of either party or jointly by employees of the parties may be designated as protected material by either party if such

information would be proprietary information if obtained from a non-Federal party. Unless a lesser period of time is set forth in the SOW, the Federal Laboratory will provide appropriate protection against dissemination of such information, including exemption from 5 U.S.C. chapter 5, subchapter II, for five (5) years after the data is developed, unless the information loses its protected status earlier. The Federal Laboratory shall have the right to use subject data for Government purposes. The Collaborating Party may use subject data for any purpose. Protected subject data must contain a prominent legend stating: (1) it is protected, (2) the rights to use of the parties, and (3) the date the protected status is due to expire.

10.2.5 Other proprietary or protected information. Proprietary infor-mation other than subject data or background information that is furnished by the Collaborating Party to the Federal Laboratory under this Agreement and which is marked proprietary shall be used by the Federal Laboratory only for the purpose of carrying out this Agreement and for Government administrative and oversight purposes. Such marked proprietary information, as long as it maintains its proprietary status, shall not be disclosed or otherwise made available outside the Government without the consent of the Collaborating Party. Protected information other than subject data or background information that is furnished by the Federal Laboratory to the Collaborating Party under this Agreement and which is marked protected shall be used by the Collaborating Party only for the purpose of carrying out this Agreement. Such marked protected information, as long as it maintains its protected status, shall not be disclosed or otherwise made available to anyone other than the Collaborating Party without the consent of the Federal Laboratory.

10.2.6 Standard of care. Each party is obligated to use reasonable care in the protection of proprietary and protected information.

Article 11
Prepublication Review

11.1 Publication. The parties anticipate that their employees may wish to publish technical developments and/or research findings made under this Agreement. Each party shall submit to the other party any proposed written or oral publications pertaining to work under this Agreement. The other party shall provide a written response within thirty (30) days either objecting or not objecting to the proposed publication. The proposed publication shall not be deemed objectionable unless the proposed publication contains proprietary information, protected information, or material that would create potential statutory bars to the filing of U.S. or corresponding foreign patent application, or for any other reasonable basis.

Article 12
Export Control

12.1 Compliance. The parties understand that information and technology resulting from the performance of this Agreement may be subject to export control laws and regulations, and each party is responsible for its own compliance with such laws and regulations. Nothing

in this Agreement waives any such statutory or regulatory requirement.

Article 13
U.S. Competitiveness

13.1 Manufacture. The parties agree that a purpose of this Agreement is to provide substantial benefit to the U.S. economy. To the extent feasible, the parties agree to exercise reasonable efforts to manufacture substantially in the United States products embodying intellectual property developed under this Agreement.

Article 14
Liability

14.1 NO WARRANTY. THE PARTIES MAKE NO EXPRESS OR IMPLIED WARRANTY AS TO THE CONDITIONS OF THE RESEARCH, INVENTIONS, OR TECHNICAL DATA, OR PRODUCTS EXCHANGED, MADE, OR DEVELOPED UNDER THIS AGREEMENT, OR THE OWNERSHIP, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, TECHNICAL FEASIBILITY, OR FREEDOM FROM INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF THE RESEARCH, INVENTIONS, TECHNICAL DATA, OR PRODUCTS. NEITHER PARTY SHALL BE LIABLE FOR LOST PROFITS, LOST SAVINGS, SPECIAL, CONSEQUENTIAL, INCIDENTAL OR OTHER INDIRECT DAMAGES, EVEN IF SUCH PARTY IS MADE AWARE OF THE POSSIBILITY THEREOF.

14.2 Products liability. To the extent not specifically prohibited by applicable State or local law, the Collaborating Party agrees to indemnify and hold harmless the Government for any loss, claim, damage, expense, or liability of any kind occurring as a result of the making, using, or selling of a product, process, or service by or on behalf of the Collaborating Party, its assignees and licensees, which was derived from work performed under this Agreement. In respect to this provision, the Government shall not be considered an assignee or licensee of the Collaborating Party as a result of reserved Government rights under this Agreement. The Government's liability for losses, claims, damages, or expenses of the Collaborating Party occurring as a result of the making, using, or selling of a product, process, or service by or on behalf of the Government shall be governed by the provisions of the Federal Tort Claims Act.

14.3 Parties' employees. To the extent not specifically prohibited by applicable State or local law, the Collaborating Party shall indemnify and hold harmless the Government for any loss, claim, damage, expense, or liability of any kind involving an employee of the Collaborating Party arising in connection with the performance of work under this Agreement, except to the extent that such loss, claim, damage, or liability arises from the negligence of the Federal Laboratory or its employees. The Government's liability for the loss of property, personal injury or death, or otherwise arising out of any negligent act or omission of its employees in connection with the performance of work under this Agreement shall be governed by the Federal Tort Claims Act.

14.4 Notice and assistance. The indemnification provisions of this Article shall apply only if the party upon which the claim or lawsuit is asserted gives the other party prompt notice of the claim or lawsuit and allows that party to participate in the defense/adjudication of the claim or lawsuit as is permitted by applicable laws and Government regulations.

Article 15
Force Majeure

15.1 Force majeure events. Neither party shall be liable for any unforeseen event beyond its reasonable control not caused by the fault or negligence of such party, which causes such party to be unable to perform its obligations under this Agreement and which it has been unable to overcome by the exercise of due diligence. Such unforeseen events include, but are not limited to, fire, storm, flood, earthquake or other natural catastrophes, accidents, acts of civil disturbance or disobedience, war, rebellion, insurrection, labor strikes or disputes, compliance with any laws, requirements, rules, regulations, or orders of any governmental authority or instrumentality thereof, sabotage, invasion, quarantine, and embargoes.

15.2 Best efforts. The excused party shall use its best efforts to resume performance as quickly as possible and shall suspend performance for only such period as is necessary as a result of the force majeure event.

15.3 Contrary to law. Any provision of this Agreement that is prohibited by applicable law is void, but the remaining provisions shall survive.

Article 16
Termination

16.1 Mutual consent. The parties may elect to terminate this Agreement, or portions thereof, at any time by mutual consent.

16.2 Unilateral action. Either party may unilaterally terminate this Agreement at any time by giving the other party written notice, not less than 30 days prior to the desired termination date.

16.3 Termination costs. Unless otherwise explicitly provided in this Agreement, each party shall be solely responsible for all of the costs it has incurred under this Agreement through the effective date of termination, as well as any costs it incurs after the effective date of termination.

16.4 Continuing obligations. In the event of termination, the parties shall specify the disposition of all property, patents, and other results of work accomplished or in progress under this Agreement, when such disposition is not otherwise specified in this Agreement. All obligations under this Agreement to safeguard proprietary and other protected information and relating to rights in intellectual property or technical data shall survive any termination of this Agreement.

Article 17
Disputes

17.1 Settlement. The parties recognize that disputes arising under this Agreement are best resolved at the working level. Both parties are encouraged to be imaginative in designing mechanisms and procedures to resolve disputes at that level. Any dispute arising under this Agreement which is not disposed of by agreement of the parties at the working level shall be submitted jointly to the signatories of this Agreement or their successors or their designees for resolution. Although the parties agree to use alternate disputes resolution (ADR) techniques to resolve disputes, nothing in this Agreement precludes either party from pursuing resolution of a dispute using other legal review available by law.

17.2 Obligations. Pending the resolution of a dispute pursuant to this Article, the parties agree to diligently continue performing all obligations in accordance with the SOW.

Article 18
Modifications

18.1 Entire agreement. This Agreement contains the entire agreement between the parties with respect to the subject matter hereof and all prior representations or agreements relating hereto have been merged into this document and are superseded in totality by this Agreement.

18.2 Modifications. If either party desires to modify this Agreement, the parties upon reasonable notice of the proposed modification by the party desiring the change shall confer in good faith to determine the desirability of such modification. Any resulting modification shall not be effective until a written amendment is signed by the duly authorized representatives of the parties. Any material modification of this Agreement is subject to the authority of the Assistant Secretary of the Army (Research, Development and Acquisition) as provided in paragraph 1.2 of this Agreement to disapprove or require modification within thirty (30) days of the date it is presented to the Assistant Secretary.

Article 19
Notices

19.1 Notices. All notices pertaining to or required by this Agreement shall be in writing and shall be delivered by hand or sent by certified mail, return receipt requested, express mail, or private delivery service addressed as specified in the SOW.

Article 20
Nonassignment

20.1 Nonassignment. This Agreement may not be assigned or otherwise transferred by either party without the prior written consent of the other party.

Article 21
Officials Not To Benefit

21.1 Officials not to benefit. No member of Congress shall be admitted to any share or part of this Agreement, nor to any benefit that may arise therefrom; but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

Article 22
Endorsements

22.1 No endorsements. By entering into this Agreement, the Federal Laboratory does not directly or indirectly endorse any product or service provided or to be provided by the Collaborating Party, its successors, assignees, or licensees. The Collaborating Party shall not in any way imply this Agreement is an endorsement by the Government of any such product or service. The Federal Laboratory and the Collaborating Party agree not to use the other's name in any promotional material which implies endorsement by that party of any product or service resulting from this Agreement.

Article 23
Duration of Agreement

23.1 Effective date. This Agreement will be effective upon the date that the last party signs this Agreement.

23.2 Duration. It is mutually recognized by the parties that the objectives to be attained by this Agreement cannot be rigidly defined in advance and that projected milestones are subject to adjustment by mutual agreement of the parties. Notwithstanding, this Agreement will not extend beyond the latest period of time stated in the SOW.

23.3 Continuing obligations. All obligations under this Agreement to safeguard proprietary and other protected information and relating to rights in intellectual property or technical data shall survive the expiration of this Agreement.

Entered into this __ day of _____ 19__, for_____ .

By _____

Title _____

Entered into this __ day of _____ 19__, for _____ .

By _____

Title _____

ATTACHMENT A

STATEMENT OF WORK

1.0 OBJECTIVE. Photovoltaic (PV) energy generation is a dual use technology which requires further research and development (R&D). This alternate energy source provides advantages over conventional energy generation. PV generation is not dependent on fossil fuels and results in less environmental pollutants. Potential military applications of PV technology are far-reaching and involve many end-user military items that currently rely on conventional energy sources. PV technology is equally applicable to the commercial marketplace. The purpose of this Agreement is for U.S. Army MacArthur Laboratory (AML) and Solar Power Public Utilities Corporation (SPPU) to conduct collaborative R&D in PV energy generation, conversion, storage, and usage. One particular objective of this work is to test and demonstrate Thin Film Multi-Junction (TFMJ) PV technologies. Both AML and SPPU possess extensive expertise in PV research and development and its applications which will be cross-pollinated during the performance of this Agreement. The environmental conditions existing at AML are optimal for this work effort.

2.0 Peak Load Reduction System Project.

2.1 During this project, advanced TFMJ PV technologies will be employed to design, construct, and test a structure that generates PV energy configured in a grid-connected application to provide supplemental, peak load reduction power to conventionally powered equipment. In addition, the structure will provide shade for parked cars and will include an electric charging station outlet for an Electric Vehicle.

2.2 Specific tasks.

2.2.1 AML and SPPU will design a 10 *kW* (peak rating) PV energy generation system to be incorporated into a covered parking structure. The size of the system will be approximately 50' x 40'. Estimated completion of the design is 15 September 19XX.

2.2.2 AML and SPPU will design the necessary PV array and power conditioning equipment that constitute the 10 *kW* PV energy generation system. Estimated completion of the design is 15 September 19XX.

2.2.3 AML will design the covered parking structure that will accommodate the 10 *kW* generation system. Estimated completion of the design is 15 September 19XX.

2.2.4 AML will design a data acquisition system for use during the testing phase of 10 *kW* energy generation system to monitor the performance of the PV system. Estimated completion of the design is 15 September 19XX.

2.2.5 AML will construct the basic covered parking structure frame at AML. Estimated cost of the frame construction is $XXXX.XX. Estimated completion of the frame is 15 November 19XX. AML and SPPU will construct the 10 *kW* PV energy generation system on the covered parking structure frame at AML using SPPU-supplied PV array materials. The SPPU-supplied PV array materials will become the property of AML. All other equipment and materials will be furnished by AML. SPPU will be solely responsible for the electrical installation. Estimated completion of the PV energy generation covered parking system is 30 January 19XX.

2.2.6 AML will furnish and install the data acquisition system. Estimated completion of the installation is 30 January 19XX.

2.2.7 AML and SPPU will conduct startup tests of the PV system. Estimated completion of the startup tests is 31 March 19XX.

2.2.8 AML will operate, maintain, and conduct testing of the PV system. SPPU will perform data collection and screening and data analysis during the testing. The performance period for testing will be approximately two years.

3.0 Reports.

3.1 Progress reports. Throughout the conduct of this project, AML and SPPU will informally share all data collected and the analysis results of that data.

3.2 Final report. SPPU will prepare and deliver to AML a final report of the technical, operational and economic performance of the PV system. The final report will be provided to AML within 60 days after the testing period of performance is concluded.

4.0 Principal investigators. The principal investigators for this project are as follows. All notices required by this Agreement will be sent to the respective principal investigator or his successor.

4.1. AML.

Name:
Title:
Address:

Telephone:

4.2 SPPU.

Name:
Title:
Address:

Telephone:

5.0 Term of performance. The estimated term of performance for this project is 30 months. Under no circumstances shall performance of this project exceed four years from the date this Agreement is executed.

APPENDIX IV

UNITED STATES CODE
TITLE 15. COMMERCE AND TRADE
CHAPTER 63. TECHNOLOGY INNOVATION

§ 3710a. Cooperative research and development agreements

(a) General authority

Each Federal agency may permit the director of any of its Government-operated Federal laboratories, and, to the extent provided in an agency-approved joint work statement, the director of any of its Government-owned, contractor-operated laboratories--

(1) to enter into cooperative research and development agreements on behalf of such agency (subject to subsection (c) of this section) with other Federal agencies; units of State or local government; industrial organizations (including corporations, partnerships, and limited partnerships, and industrial development organizations); public and private foundations; nonprofit organizations (including universities); or other persons (including licensees of inventions owned by the Federal agency); and

(2) to negotiate licensing agreements under section 207 of title 35, United States Code, or under other authorities (in the case of a Government-owned, contractor-operated laboratory, subject to subsection (c) of this section) for inventions made or other intellectual property developed at the laboratory and other inventions or other intellectual property that may be voluntarily assigned to the Government.

(b) Enumerated authority

(1) Under an agreement entered into pursuant to subsection (a)(1), the laboratory may grant, or agree to grant in advance, to a collaborating party patent licenses or assignments, or options thereto, in any invention made in whole or in part by a laboratory employee under the agreement, for reasonable compensation when appropriate. The laboratory shall ensure, through such agreement, that the collaborating party has the option to choose an exclusive license for a pre-negotiated field of use for any such invention under the agreement or, if there is more than one collaborating party, that the collaborating parties are offered the option to hold licensing rights that collectively encompass the rights that would be held under such an exclusive license by one party. In consideration for the Government's contribution under the agreement, grants under this paragraph shall be subject to the following explicit conditions:

(A) A nonexclusive, nontransferable, irrevocable, paid-up license from the collaborating party to the laboratory to practice the invention or have the invention practiced throughout the world by or on behalf of the Government. In the exercise of such license, the Government shall not publicly disclose trade secrets or commercial or financial information that is privileged or which would be considered confidential within the

meaning of section 552(b)(4) of title 5, United States Code, or which would be considered as such if it had been obtained from a non-Federal party.

(B) If a laboratory assigns title or grants an exclusive license to such an invention, the Government shall retain the right--

(i) to require the collaborating party to grant to a responsible applicant a nonexclusive, partially exclusive, or exclusive license to use the invention in the applicant's licensed field of use, on terms that are reasonable under the circumstances; or

(ii) if the collaborating party fails to grant such a license, to grant the license itself.

(C) The Government may exercise its right retained under subparagraph (B) only in exceptional circumstances and only if the Government determines that--

(i) the action is necessary to meet health or safety needs that are not reasonably satisfied by the collaborating party;

(ii) the action is necessary to meet requirements for public use specified by Federal regulations, and such requirements are not reasonably satisfied by the collaborating party; or

(iii) the collaborating party has failed to comply with an agreement containing provisions described in subsection (c)(4)(B).

This determination is subject to administrative appeal and judicial review under section 203(2) of title 35, United States Code.

(2) Under agreements entered into pursuant to subsection (a)(1), the laboratory shall ensure that a collaborating party may retain title to any invention made solely by its employee in exchange for normally granting the Government a nonexclusive, nontransferable, irrevocable, paid-up license to practice the invention or have the invention practiced throughout the world by or on behalf of the Government for research or other Government purposes.

(3) Under an agreement entered into pursuant to subsection (a)(1), a laboratory may--

(A) accept, retain, and use funds, personnel, services, and property from a collaborating party and provide personnel, services, and property to a collaborating party;

(B) use funds received from a collaborating party in accordance with subparagraph (A) to hire personnel to carry out the agreement who will not be subject to full-time-equivalent restrictions of the agency;

(C) to the extent consistent with any applicable agency requirements or standards of conduct, permit an employee or former employee of the laboratory to participate in an

effort to commercialize an invention made by the employee or former employee while in the employment or service of the Government; and

(D) waive, subject to reservation by the Government of a nonexclusive, irrevocable, paid-up license to practice the invention or have the invention practiced throughout the world by or on behalf of the Government, in advance, in whole or in part, any right of ownership which the Federal Government may have to any subject invention made under the agreement by a collaborating party or employee of a collaborating party.

(4) A collaborating party in an exclusive license in any invention made under an agreement entered into pursuant to subsection (a)(1) shall have the right of enforcement under chapter 29 of title 35, United States Code.

(5) A Government-owned, contractor-operated laboratory that enters into a cooperative research and development agreement pursuant to subsection (a)(1) may use or obligate royalties or other income accruing to the laboratory under such agreement with respect to any invention only--

(A) for payments to inventors;

(B) for purposes described in clauses (i), (ii), (iii), and (iv) of section 14(a)(1)(B) [15 USCS § 3710c(a)(1)(B)(i), (ii), (iii), and (iv)]; and

(C) for scientific research and development consistent with the research and development missions and objectives of the laboratory.

(c) Contract considerations

(1) A Federal agency may issue regulations on suitable procedures for implementing the provisions of this section; however, implementation of this section shall not be delayed until issuance of such regulations.

(2) The agency in permitting a Federal laboratory to enter into agreements under this section shall be guided by the purposes of this Act.

(3)(A) Any agency using the authority given it under subsection (a) shall review standards of conduct for its employees for resolving potential conflicts of interest to make sure they adequately establish guidelines for situations likely to arise through the use of this authority, including but not limited to cases where present or former employees or their partners negotiate licenses or assignments of titles to inventions or negotiate cooperative research and development agreements with Federal agencies (including the agency with which the employee involved is or was formerly employed).

(B) If, in implementing subparagraph (A), an agency is unable to resolve potential conflicts of interest within its current statutory framework, it shall propose necessary statutory changes to be forwarded to its authorizing committees in Congress.

(4) The laboratory director in deciding what cooperative research and development

agreements to enter into shall--

(A) give special consideration to small business firms, and consortia involving small business firms; and

(B) give preference to business units located in the United States which agree that products embodying inventions made under the cooperative research and development agreement or produced through the use of such inventions will be manufactured substantially in the United States and, in the case of any industrial organization or other person subject to the control of a foreign company or government, as appropriate, take into consideration whether or not such foreign government permits United States agencies, organizations, or other persons to enter into cooperative research and development agreements and licensing agreements.

(5)(A) If the head of the agency or his designee desires an opportunity to disapprove or require the modification of any such agreement presented by the director of a Government-operated laboratory, the agreement shall provide a 30-day period within which such action must be taken beginning on the date the agreement is presented to him or her by the head of the laboratory concerned.

(B) In any case in which the head of an agency or his designee disapproves or requires the modification of an agreement presented by the director of a Government-operated laboratory under this section, the head of the agency or such designee shall transmit a written explanation of such disapproval or modification to the head of the laboratory concerned.

(C)(i) Except as provided in subparagraph (D), any agency which has contracted with a non-Federal entity to operate a laboratory shall review and approve, request specific modifications to, or disapprove a joint work statement that is submitted by the director of such laboratory within 90 days after such submission. In any case where an agency has requested specific modifications to a joint work statement, the agency shall approve or disapprove any resubmission of such joint work statement within 30 days after such resubmission, or 90 days after the original submission, whichever occurs later. No agreement may be entered into by a Government-owned, contractor-operated laboratory under this section before both approval of the agreement under clause (iv) and approval under this clause of a joint work statement.

(ii) In any case in which an agency which has contracted with a non-Federal entity to operate a laboratory disapproves or requests the modification of a joint work statement submitted under this section, the agency shall promptly transmit a written explanation of such disapproval or modification to the director of the laboratory concerned.

(iii) Any agency which has contracted with a non-Federal entity to operate a laboratory or laboratories shall develop and provide to such laboratory or laboratories one or more model cooperative research and development agreements, for the purposes of standardizing practices and procedures, resolving common legal issues, and enabling review of cooperative research and development agreements to be carried out in a routine and prompt manner.

(iv) An agency which has contracted with a non-Federal entity to operate a laboratory shall review each agreement under this section. Within 30 days after the presentation, by the director of the laboratory, of such agreement, the agency shall, on the basis of such review, approve or request specific modification to such agreement. Such agreement shall not take effect before approval under this clause.

(v) If an agency fails to complete a review under clause (iv) within the 30-day period specified therein, the agency shall submit to the Congress, within 10 days after the end of that 30-day period, a report on the reasons for such failure. The agency shall, at the end of each successive 30-day period thereafter during which such failure continues, submit to the Congress another report on the reasons for the continuing failure. Nothing in this clause relieves the agency of the requirement to complete a review under clause (iv).

(vi) In any case in which an agency which has contracted with a non-Federal entity to operate a laboratory requests the modification of an agreement presented under this section, the agency shall promptly transmit a written explanation of such modification to the director of the laboratory concerned.

(D)(i) Any non-Federal entity that operates a laboratory pursuant to a contract with a Federal agency shall submit to the agency any cooperative research and development agreement that the entity proposes to enter into with a small business firm and the joint work statement required with respect to that agreement.

(ii) A Federal agency that receives a proposed agreement and joint work statement under clause (i) shall review and approve, request specific modifications to, or disapprove the proposed agreement and joint work statement within 30 days after such submission. No agreement may be entered into by a Government-owned, contractor-operated laboratory under this section before both approval of the agreement and approval of a joint work statement under this clause.

(iii) In any case in which an agency which has contracted with an entity referred to in clause (i) disapproves or requests the modification of a cooperative research and development agreement or joint work statement submitted under that clause, the agency shall transmit a written explanation of such disapproval or modification to the head of the laboratory concerned.

(6) Each agency shall maintain a record of all agreements entered into under this section.

(7)(A) No trade secrets or commercial or financial information that is privileged or confidential, under the meaning of section 552(b)(4) of title 5, United States Code, which is obtained in the conduct of research or as a result of activities under this chapter from a non-Federal party participating in a cooperative research and development agreement shall be disclosed.

(B) The director, or in the case of a contractor-operated laboratory, the agency, for a period of up to 5 years after development of information that results from research and development activities conducted under this chapter and that would be a trade secret or

commercial or financial information that is privileged or confidential if the information had been obtained from a non-Federal party participating in a cooperative research and development agreement, may provide appropriate protections against the dissemination of such information, including exemption from subchapter II of chapter 5 of Title 5.

(d) Definitions

As used in this section--

(1) the term "cooperative research and development agreement" means any agreement between one or more Federal laboratories and one or more non-Federal parties under which the Government, through its laboratories, provides personnel, services, facilities, equipment, intellectual property, or other resources with or without reimbursement (but not funds to non-Federal parties) and the non-Federal parties provide funds, personnel, services, facilities, equipment, intellectual property, or other resources toward the conduct of specified research or development efforts which are consistent with the missions of the laboratory; except that such term does not include a procurement contract or cooperative agreement as those terms are used in sections 6303, 6304, and 6305 of Title 31;

(2) the term "laboratory" means--

(A) a facility or group of facilities owned, leased, or otherwise used by a Federal agency, a substantial purpose of which is the performance of research, development, or engineering by employees of the Federal Government;

(B) a group of Government-owned, contractor-operated facilities (including a weapon production facility of the Department of Energy) under a common contract, when a substantial purpose of the contract is the performance of research and development, or the production, maintenance, testing, or dismantlement of a nuclear weapon or its components, for the Federal Government; and

(C) a Government-owned, contractor-operated facility (including a weapon production facility of the Department of Energy) that is not under a common contract described in subparagraph (B), and the primary purpose of which is the performance of research and development, or the production, maintenance, testing, or dismantlement of a nuclear weapon or its components, for the Federal Government,

but such term does not include any facility covered by Executive Order No. 12344, dated February 1, 1982, pertaining to the naval nuclear propulsion program;

(3) the term "joint work statement" means a proposal prepared for a Federal agency by the director of a Government-owned, contractor-operated laboratory describing the purpose and scope of a proposed cooperative research and development agreement, and assigning rights and responsibilities among the agency, the laboratory, and any other party or parties to the proposed agreement; and

(4) the term "weapon production facility of the Department of Energy" means a facility under the control or jurisdiction of the Secretary of Energy that is operated for national

security purposes and is engaged in the production, maintenance, testing, or dismantlement of a nuclear weapon or its components.

(e) Determination of laboratory missions

For purposes of this section, an agency shall make separate determinations of the mission or missions of each of its laboratories.

(f) Relationship to other laws

Nothing in this section is intended to limit or diminish existing authorities of any agency.

(g) Principles

In implementing this section, each agency which has contracted with a non-Federal entity to operate a laboratory shall be guided by the following principles:

(1) The implementation shall advance program missions at the laboratory, including any national security mission.

(2) Classified information and unclassified sensitive information protected by law, regulation, or Executive order shall be appropriately safeguarded.

§ 3710c. Distribution of royalties received by Federal agencies

(a) In general.

(1) Except as provided in paragraphs (2) and (4), any royalties or other payments received by a Federal agency from the licensing and assignment of inventions under agreements entered into by Federal laboratories under section 12 [15 USCS § 3710a], and from the licensing of inventions of Federal laboratories under section 207 of title 35, United States Code, or under any other provision of law, shall be retained by the laboratory which produced the invention and shall be disposed of as follows:

(A) (i) The head of the agency or laboratory, or such individual's designee, shall pay each year the first $ 2,000, and thereafter at least 15 percent, of the royalties or other payments to the inventor or coinventors.

(ii) An agency or laboratory may provide appropriate incentives, from royalties, or other payments, to laboratory employees who are not an inventor of such inventions but who substantially increased the technical value of such inventions.

(iii) The agency or laboratory shall retain the royalties and other payments received from an invention until the agency or laboratory makes payments to employees of a laboratory under clause (i) or (ii).

(B) The balance of the royalties or other payments shall be transferred by the agency to its laboratories, with the majority share of the royalties or other payments from any invention going to the laboratory where the invention occurred. The royalties or other payments so transferred to any laboratory may be used or obligated by that laboratory during the fiscal year in which they are received or during the succeeding fiscal year--

(i) to reward scientific, engineering, and technical employees of the laboratory, including developers of sensitive or classified technology, regardless of whether the technology has commercial applications;

(ii) to further scientific exchange among the laboratories of the agency;

(iii) for education and training of employees consistent with the research and development missions and objectives of the agency or laboratory, and for other activities that increase the potential for transfer of the technology of the laboratories of the agency;

(iv) for payment of expenses incidental to the administration and licensing of intellectual property by the agency or laboratory with respect to inventions made at that laboratory, including the fees or other costs for the services of other agencies, persons, or organizations for intellectual property management and licensing services; or

(v) for scientific research and development consistent with the research and development missions and objectives of the laboratory.

(C) All royalties or other payments retained by the agency or laboratory after payments have been made pursuant to subparagraphs (A) and (B) that is unobligated and unexpended at the end of the second fiscal year succeeding the fiscal year in which the royalties and other payments were received shall be paid into the Treasury.

(2) If, after payments to inventors under paragraph (1), the royalties or other payments received by an agency in any fiscal year exceed 5 percent of the budget of the Government-operated laboratories of the agency for that year, 75 percent of such excess shall be paid to the Treasury of the United States and the remaining 25 percent may be used or obligated under paragraph (1)(B). Any funds not so used or obligated shall be paid into the Treasury of the United States.

(3) Any payment made to an employee under this section shall be in addition to the regular pay of the employee and to any other awards made to the employee, and shall not affect the entitlement of the employee to any regular pay, annuity, or award to which he is otherwise entitled or for which he is otherwise eligible or limit the amount thereof. Any payment made to an inventor as such shall continue after the inventor leaves the laboratory or agency. Payments made under this section shall not exceed $ 150,000 per year to any one person, unless the President approves a larger award (with the excess over $150,000 being treated as a Presidential award under section 4504 of Title 5.

(4) A Federal agency receiving royalties or other payments as a result of invention management services performed for another Federal agency or laboratory under section 207 of title 35, United States Code, may retain such royalties or payments to the extent required to offset payments to inventors under clause (i) of paragraph (1)(A), costs and expenses incurred under clause (iv) of paragraph (1)(B), and the cost of foreign patenting and maintenance for any invention of the other agency. All royalties and other payments remaining after offsetting the payments to inventors, costs, and expenses described in the preceding sentence shall be transferred to the agency for which the services were performed, for distribution in accordance with paragraph (1)(B).

(b) Certain assignments

If the invention involved was one assigned to the Federal agency--

(1) by a contractor, grantee, or participant, an employee of a contractor, grantee, or participant, in an agreement or other arrangement with the agency, or

(2) by an employee of the agency who was not working in the laboratory at the time the invention was made,

the agency unit that was involved in such assignment shall be considered to be a laboratory for purposes of this section.

(c) Reports

(1) In making their annual budget submissions Federal agencies shall submit, to the appropriate authorization and appropriation committees of both Houses of the Congress, summaries of the amount of royalties or other income received and expenditures made (including inventor awards) under this section.

(2) The Comptroller General, five years after the date of the enactment of this section, shall review the effectiveness of the various royalty-sharing programs established under this section and report to the appropriate committees of the House of Representatives and the Senate, in a timely manner, his findings, conclusions, and recommendations for improvements in such programs.

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We welcome your comments regarding the contents of this pamphlet. Please send your suggestions to:

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